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ELDERBERRY CULTURE in Eastern Canada

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ELDERBERRY CULTURE

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The fruit of the common elderberry (*Sambucus canadensis*) has always been popular for pies, jellies, jams, juice, and homemade wine. The plant is native to many areas in Eastern Canada and so is readily available for home use. The ease with which the berries can be gathered from the wild may account for the lack of commercial plantings in the past, although the elderberry is well suited to cultivation. Several cultivars, listed at the end of this publication, give good yields.

Soil

In its natural habitat the elderberry is commonly found on fertile, moist soils. Under cultivation it is tolerant of a wide range of soil conditions but grows best in sandy loam soils that are normally used for growing small fruits such as raspberries and strawberries.

Drainage

The soil must be well drained. If your soil is clayey, choose slopes where excess water runs off quickly during the fall and winter. Regardless of the soil type, avoid low-lying areas because of the danger of ponding. Plants cannot survive in areas that remain covered with water for several days.

Good air drainage is also essential. Because the berries mature during the early fall, they can be readily damaged by frost. Planting on slopes not only helps to reduce this danger but also lowers the risk that the foliage will be infected by diseases such as mildew.

Moisture supply

Rainfall is often low when berries are forming and maturing. You should therefore consider applying extra water by irrigation. Give plantings 2.5 cm of water a week during the growing season if rainfall is lacking.

Preparing the soil

Because elderberries are a perennial crop, you need to prepare the soil carefully before planting. If soil drainage is poor, you can improve it by using tile drains and ditches. To lighten heavy soils and help plant growth, incorporate barnyard manure or other organic matter. For sandy soils, adding organic matter is equally important because it helps to retain moisture and provides nutrients.

When to plant

Elderberry plants are among the first to show signs of growth in the spring. Therefore they should be planted early. It is true that they tolerate improper handling better than many plants, but if you want success, handle them with care. Drying out of the roots just before planting is the greatest danger. To prevent this, keep the roots of transplants covered with moist peat moss or other similar material.

Spacing

A mature elderberry shrub is 2–3 m high and the spread of its branches when laden with fruit is about 2 m. In commercial plantings you should therefore space rows 4–5 m apart to allow room for tractor cultivation. The plants in each row should be 2 m apart. In home garden plots where only small equipment is used for cultivation, plants can be much closer together. You can set them 2 m apart in any direction.

Fertilizing

Apply fertilizer each spring. Use either barnyard manure at a rate of 25 t/ha, or a commercial fertilizer. Elderberries give the greatest response to nitrogen, which is best supplied by applying 60 g of ammonium nitrate for each year of the plant's age (with a limit of 450 g per plant), or a complete fertilizer such as 10-10-10 at 100 g for each year of the plant's growth (with a limit of 1 kg per plant). Apply the fertilizer in a ring around each plant, or along the side of each row if you are growing them in solid rows like rows of raspberries.

Cultivation

The elderberry root system is fibrous and shallow. Therefore, cultivate shallow and only as often as is required to control weeds. Elderberries often die back because of winter injury. Late growth brought on by too much fertilizer and late cultivation is the reason for this type of injury. Avoid practices that stimulate late growth. No herbicides have been approved for use with elderberries.

Pruning and training

Prune annually in the early spring, when the extent of winter injury can be assessed. Reduce vigorous plants to five or six 1-year-old shoots and one or two 2-year-old shoots. Remove the winter-injured parts of terminal shoots. Also, to limit the spread of plants, remove all shoots outside a circle 60 cm in diameter around each shrub. If you want the plants to form a continuous row, remove only the suckers growing between rows.

Propagation

Three-bud hardwood cuttings 25–40 cm long are best for propagation. Because they root readily they can be planted directly in a nursery in the early spring. The nursery soil should be loamy and well supplied with moisture. Bury the entire cutting in the nursery row, leaving only the pair of top buds above the soil surface.

For small home plantings the cuttings can be placed in a permanent location.

Harvesting

Elderberries grow in large, easy-to-harvest clusters, which normally mature during September. The clusters do not all mature at the same time, so several pickings are necessary. The berries are often picked into hampers and when used commercially are quick-frozen before being passed through a mechanical cleaner that removes the stems.

Yields of 10 kg of shelled berries from a mature bush are common. On a basis of the area planted, yields of more than 7 t/ha can be expected.

Insects and diseases

Little research has been carried out on insects and diseases of elderberries, although certain mites and rusts are known to injure ornamental elder species. You may obtain recommendations for control of these and other pests of elders from your nearest agricultural representative.

Pollination

All elderberries are partly self-unfruitful. To ensure proper pollination, plant a mixture of two or more cultivars located within 20 m of one another.

Description of cultivars

Johns — Introduced in 1954 by the Research Station, Kentville; plants very vigorous, productive; clusters and berries large.

Kent — Introduced in 1960 by the Research Station, Kentville; plants moderately vigorous; clusters moderate in size, early maturing.

Nova — Introduced in 1960 by the Research Station, Kentville; plants moderately vigorous, productive; clusters and berries moderate in size.

Scotia – Introduced in 1960 by the Research Station, Kentville; plants moderately vigorous, productive; clusters and berries moderate in size; berries high in soluble solids and acid content.

Victoria – Introduced in 1960 by the Research Station, Kentville; plants moderately vigorous, not as productive as Johns and York; clusters and berries moderate in size; berries tending to shell readily from the stems.

York – Introduced in 1964 by the New York Agricultural Experiment Station; plants vigorous, productive; clusters and berries large, late maturing.

Author's note

It is of interest to note that five of the six cultivars listed above were introduced by E. L. Eaton of the Research Station, Kentville, more than 15 years ago. The fact that elderberries grow well in western Nova Scotia has been clearly demonstrated, yet for economic reasons there is no elderberry industry in the area. In contrast, elderberries are grown commercially in Ohio, Pennsylvania, and New York. The Kentville cultivars are widely planted in these states. Approximately 2000 t of elderberries are processed annually just south of Lake Erie; Johns and Scotia are grown there for this purpose.

CONVERSION FACTORS

Metric units	Approximate conversion factors	Results in:
LINEAR		
millimetre (mm)	x 0.04	inch
centimetre (cm)	x 0.39	inch
metre (m)	x 3.28	feet
kilometre (km)	x 0.62	mile
AREA		
square centimetre (cm^2)	x 0.15	square inch
square metre (m^2)	x 1.2	square yard
square kilometre (km^2)	x 0.39	square mile
hectare (ha)	x 2.5	acres
VOLUME		
cubic centimetre (cm^3)	x 0.06	cubic inch
cubic metre (m^3)	x 35.31	cubic feet
	x 1.31	cubic yard
CAPACITY		
litre (L)	x 0.35	cubic feet
hectolitre (hL)	x 22	gallons
	x 2,5	bushels
WEIGHT		
gram (g)	x 0.04	oz avdp
kilogram (kg)	x 2.2	lb avdp
tonne (t)	x 1.1	short ton
AGRICULTURAL		
litres per hectare (L/ha)	x 0.089	gallons per acre
	x 0.357	quarts per acre
	x 0.71	pints per acre
millilitres per hectare (mL/ha)	x 0.014	fl. oz per acre
tonnes per hectare (t/ha)	x 0.45	tons per acre
kilograms per hectare (kg/ha)	x 0.89	lb per acre
grams per hectare (g/ha)	x 0.014	oz avdp per acre
plants per hectare (plants/ha)	x 0.405	plants per acre